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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,829	10/24/2003	Kurt Schunke	SCHUNKE-2	1489

20151 7590 08/24/2005

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EXAMINER
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KRAUSE, JUSTIN MITCHELL

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/693,829	<b>Applicant(s)</b> SCHUNKE ET AL.	
	<b>Examiner</b> Justin Krause	<b>Art Unit</b> 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/24/2003</u> | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the drive motor output member must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: attachment flange 24. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claim 2-14 objected to because of the following informalities: In claim 1, the device is referred to as "An electromotive adjustment device". From claims 2-14 the device is referred to as "The adjustment device". The examiner understands the meaning of the phrase, however advises applicant to maintain consistent phraseology throughout the claims. It is suggested that the phrase "The adjustment device" be changed to --The electromotive adjustment device -- for consistency within the claims. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 2, 3 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claims 2 and 3, claimed subject matter pertaining to the output journal of the motor having three teeth is briefly disclosed in the specification but is completely omitted from the drawings. The current disclosure of this entity does not constitute full disclosure and would not permit one having ordinary skill in the art to make and use this device. It is not clear how the output journal is oriented with respect to the gear train and how the gear is arranged on the output shaft of the motor.

In claim 14, brief mention is made to an attachment flange to attach the motor to the carrier within the specification. The attachment flange is not illustrated in the drawings and disclosure within the specification does not adequately describe the entity with sufficient detail to facilitate understanding of the attachment flange. The examiner does not understand what the attachment flange is, or where it is located within the assembly.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 8 and 12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites, "the drive motor is arranged on the carrier." "Arranged" requires further definition. According to the 10<sup>th</sup> edition of Merriam-Webster's Collegiate Dictionary, to arrange something means to 'put in a proper order, or into a correct or suitable sequence, relationship or adjustment.' It is not clear what the correct or suitable relationship is. The motor should have some orientation associated with its arrangement on the carrier in order to facilitate proper function.

Claim 12 recites, "the partition plane is in an area of a mid-plane of the housing". It is not clear what this statement means. The mid-plane of the housing would be a single plane half way from either end surface in a single direction. There cannot be an area of mid-plane.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 4-8, and 11-14, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over by Kitamura et al. (US Patent 6,577,034) in view of Drescher et al (US Patent 4,631,453).

Kitamura discloses a geared motor device having a housing (1 and 2) that is split in 2 halves at a partition plane in the mid plane of the housing and are held together by screws (3). The motor is of a brushless type is connected to a 2-stage gear reduction where each stage is comprised of 2 gears arranged on parallel shafts (column 2, line 38 on). The output shaft (64) is hollow and passes through both sides of the housing to facilitate attachment of an outside body from either side of the device. The motor is connected to the gear reduction by a helical gear, which meshes with a gear on the output shaft of the motor. The housing (61) has features formed into it to hold the bearings and shafts of the device as well as the motor. These features make up the carrier that retain the gears and support the motor in place. Also specified is a motor bracket to hold the output shaft of the motor (column 2, line 38).

Kitamura discloses a motor that has an internal rotor and does not specify if the motor is of a synchronous or stepper type.

Drescher discloses a motor that is brushless (column 1, line 66), synchronous (column 1, line 54) and has an external rotor design (column 2, line 35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kitamura and Drescher and add an

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external rotor, synchronous electric motor to the geared motor device. The use of an external rotor motor is a suitable replacement for an internal rotor motor so long as both motors are brushless. Applicant does not disclose reasoning for using an external rotor electric motor exclusively and provides no reasoning as to why internal rotor motors and external rotors differ in functional equivalency within the device.

10. Claims 2 and 3, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. in view of Drescher et al. as applied to claim 1 above, and further in view of Leimbach (US Patent 5,704,460).

Kitamura as modified by Drescher shows the claimed matter as described above.

Kitamura as modified by Drescher does not disclose an involute gear tooth profile or an output journal of the motor having a gear with 3 teeth.

Leimbach shows an electric motor (523) having an output shaft with gear having teeth of an involute profile. Leimbach suggests that a maximum of three teeth is preferred (Column 7, line 8 on).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kitamura as modified by Drescher with Leimbach and use a 3 tooth involute gear on the output journal of the motor. The motivation being few teeth provides for an efficient system and allows for fewer reduction stages. The involute gear profile is well known to one of ordinary skill in the art and is not in itself patentable subject matter.



11. Claims 9 and 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. in view of Drescher et al. as applied to claim 1 above, and further in view of Myers (US Patent 4,844,120).

Kitamura as modified by Drescher shows the claimed matter as described above.

Kitamura as modified by Drescher does not disclose a return spring with a shaft capable of being tensioned by a manual means.

Myers shows a return spring (70) connected to a drive shaft for a damper blade that is intended to close said damper blades when an electric motor (60) is de-energized. The return spring is directly connected to the shaft that drives the damper blade and it is possible to manually turn the shaft and tension the spring if a motor were not connected.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kitamura as modified by Drescher with Myers and add a return spring with a means of manually tensioning the spring. The motivation being the condition where power is lost to the electric motor, adequate force can be applied to the flap valve to shut the valve quickly and resist the force of air flowing through the duct.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

2,436,746 shows a multi-stage gear reduction

5,779,540 shows a fluid control device with a return spring

3,227,420 shows a multi-stage gear reduction

4,147,071 shows a multi-stage gear reduction with a tensioning spring

4,655,099 shows a stepper motor

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*JMK*  
8/19/05

  
DAVID FENSTERMACHER  
PRIMARY EXAMINER 8/18/05